CACTUS AND SUCCULENT JOURNAL

Of the Cactus And Succulent Society Of America

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FIG. 104. *Coryphantha vivipara* in full flower. From Guy Quinn, Olden, Texas. Haselton photo x 0.75

CACTUS AND SUCCULENT JOURNAL

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Vol. XX OCTOBER, 1948 No. 10

INTERESTING ARIZONA

By HOWARD E. GATES

Continued from August

The highway running north from Phoenix passes through the rolling hill country surrounding Wickenburg, the Dude Ranch Capital of our country, on its way to Prescott in the mountain resort country. Be careful when driving through Wickenburg as there is an old legend that who ever drinks of the water of its Hassayampa River will never tell the truth again. The northern descent from the mountain country of Prescott is through Jerome, the town that hangs by its fingernails on a mountain side. Still farther northward on the way to the forested country around Flagstaff, is Oak Creek Canyon, one of the far famed beauty spots in the Mogollon Rim district. Of course the most awe inspiring spot of all, the Grand Canyon, lies beyond Flagstaff. Though we have stood on the Canyon's rim in the moonlight of a summer's night and in the snows of a winter's day, we are always looking forward to another glimpse of its brilliant colors, forever changing with the lights and shadows.

In the northwestern corner of the state, is Hoover Dam, a great monument to man's ingenuity which has backed up the mighty Colorado River to form Lake Mead and provided protection and water and power for great portions of the southwest. To the east of Grand Canyon in the Painted Desert Country are the wide spread Navajo and Hopi Indian Reservations. The highway entering Arizona from the northeast passes through the Petrified Forest National Monument and close to the famous Meteor Crater.

All of these points are within one day's easy drive from our Convention Headquarters, though, of course, they cannot all be seen in one day. It matters little where one goes in Arizona. There is always something of interest. The antiquarian will find prehistoric dwellings, hieroglyphically inscribed rocks and abundant artifacts. The rock collector will gloat over new fields of pretty stones and rare minerals. The lover of nature's beauties will often pause to photograph never to be forgotten vistas on film and in his memory. The cactophile will find an ever changing array of cactus, agaves, yuccas and other succulent plants. Better yet, during convention time he will meet with a host of kindred spirits in a vast garden of the choicest plants. He will meet with the hardy explorers who have searched the far places for new plants, the students who have minutely studied and described them and the artists who have pictured them. Best of all, possibly, he'll live and eat for a few days with the fellows who have their little beds of plants in the garden, who in the fall lug them into the cellar to winter and in the spring pack them out again into the sunshine, or those city dwellers who must confine their precious plants to a small window space. He will share with them the joyful triumphs of successful growing and the heartaches of failure. Remember it's Phoenix, July 2-5 in Forty Nine.

For more news write to Howard E. Gates, Convention Chairman, Corona, Calif.

CORRECTION

Is it the Editor's fault if he sends his six year old son to get a flower of *Trichocereus Spachianus* for photographing and he brings back *Selenicereus Macdonaldiae?!* Anyway, please be *sure* to correct the name of the plant on last month's JOURNAL cover to *Selenicereus Macdonaldiae.*

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912. Of Cactus and Succulent Journal, published monthly at Pasadena, for October, 1948, State of California, County of Los Angeles.

Before me, a notary in and for the State and county aforesaid, personally appeared Scott E. Haselton, who, having been duly sworn according to law, deposes and says that he is the Editor-Publisher of the CACTUS AND SUCCULENT JOURNAL, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Scott E. Haselton, Box 101, Pasadena.

2. That the owner is: CACTUS AND SUCCULENT SOCIETY OF AMERICA, INC.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None. Cactus and Succulent Society is a nonprofit organization and issues no stock.

SCOTT E. HASELTON.

Sworn to and subscribed before me this 5th day of October, 1948. WM. RIEDELL, *Notary.*

FIG. 105
Sedum stenopetalum subsp. *typicum* from Washington, cultivated in garden, Ithaca, N. Y., 1948, June 21. Photo by W. R. Fisher.

A Reinterpretation of Sedum stenopetalum and Sedum lanceolatum

By ROBERT T. CLAUSEN

The characterization of any species of plant must be in agreement with the original description of the species and also with the type if such exists. In other words, all specimens assigned to a species must be conspecific with the type. Sometimes botanists and horticulturists are not careful about consulting original descriptions or type specimens. This can result in wrong interpretations which may persist for many years until someone finally checks the sources. *Sedum stenopetalum* Pursh happens to be a case of this sort. Numerous authors have applied the name to a species widespread and common in the mountains of temperate western North America. This species has elliptic-oblong or lanceolate leaves, yellow flowers with the petals lanceolate and erect follicles.

The type of *Sedum stenopetalum* is preserved

FIG. 106
Flowers x 4 of *Sedum stenopetalum* subsp. *typicum* from Washington. Photo by W. R. Fisher.

in the herbarium of the Academy of Natural Sciences in Philadelphia. The sheet bearing the original collection is provided with an old label indicating that the specimens were collected on the Lewis and Clark expedition at two different localities and on different dates. Further, the specimens themselves are fragmentary and belong to different species. The two inflorescences and the sterile shoots mounted on the sheet have linear-lanceolate, papillose-roughened leaves and flowers with erect pistils. The loose fragments in the packet are mostly of a species with subulate leaves and flowers with long, acuminate sepals and widely divergent pistils. Since the type is mixed, the original description must be consulted to determine which element should be called *S. stenopetalum*. Pursh listed both localities and dates, indicating that he probably did not realize that he was confusing two species under one name. His description is brief and rather general. Most of the diagnosis applies equally well to either species. Two details, however, are specific and these both apply to the loose fragments in the packet, collected on July, 1806, in the valley of the Clark's (Bitterroot) River at the mouth of Traveller's Rest Creek in western Montana. These features are leaves compressed subulate (*compresso-subulatis*) and petals linear (*petalis linearibus*). These can apply only to the species which has long been interpreted as *S. Douglasii* Hook. and which is the one primarily preserved in the packet. The fresh leaves of this species are linear-lanceolate, but on drying they become subulate. The leaves of the other species, *S. stenopetalum* of most authors, are elliptic-oblong, lanceolate or linear-lanceolate, but not subulate, even after drying, also the petals are lanceolate, but not linear. In view of this situation, the epithet, *stenopetalum*, which means narrow petal, must be applied, as in the original sense, to the species which has long been known as *S. Douglasii* Hooker. Since this species comprises three subspecies, new combinations are necessary for each of these.

S. stenopetalum subsp. **typicum** (Pursh) nom. nov., based on *S. stenopetalum* Pursh, Fl. Am. Sept. *1*:324 (1814). Synonyms are *S. Douglasii* Hooker, Flor. Bor. Am. *1*:228 (1840 [1834]), and *S. Douglasii* subsp. *Douglasii* (Hooker) Clausen, Cact. & Succ. Jour. *18*:59 (1946). The epithet, *Douglasii*, is not available here because it is based on a different type from that of *S. stenopetalum*.

S. stenopetalum subsp. **ciliosum** (Howell) comb. nov., based on *S. ciliosum* Howell, Flora of Northwest America *1*:214 (1898). A synonym is *S. Douglasii* subsp. *ciliosum* (Howell) Clausen, *loc. cit.*

S. stenopetalum subsp. **radiatum** (Watson) comb. nov., based on *S. radiatum* Watson, Proc. Am. Acad. Arts and Sciences *18*:193 (1883). A synonym is *S. Douglasii* subsp. *radiatum* (Watson) Clausen, *loc. cit.*

The earliest available name for the species which has been passing erroneously as *S. stenopetalum* of Pursh is *S. lanceolatum* Torrey. This was published in the Annals of the Lyceum of Natural History of New York, vol. *2*:205-206 (1828) and is based on a collection from near the Rocky Mountains. The description is reasonably accurate and clearly applies to this spe-

FIG. 107
LEFT: *Sedum lanceolatum* subsp. *typicum* from Colorado, cultivated outdoors, Ithaca, N. Y., 1938, June 18. Photo by W. R. Fisher. RIGHT: Painting by Bauer of Haworth's *Sedum caerulescens*. Photo through the courtesy of the Royal Botanic Garden, Kew.

cies. Torrey described the leaves as "oblong-lanceolate," "smooth, except on the margin, which is glandularly serrate under a lens" and the petals as 'lanceolate.' " The epithet, *lanceolatum*, applying to the petals, is appropriate.

W. J. Hooker, in his Flora Boreali-Americana, vol. *1*:228 (1840 [1834]), probably started the confusion concerning *S. stenopetalum*, for he described *S. Douglasii* as new, stating *"foliis lineari-subulatis"* and *"petalis anguste lanceolatis,"* and then listed *S. stenopetalum* as a different species with the leaves *"compresso-subulatis"* and *"petalis linearibus."* The plants cultivated from seeds brought by Mr. Drummond perhaps were different, but the description which Hooker copied from Pursh applies to the same species which he described as new under the name of *S. Douglasii*. Unfortunately, Torrey and Gray, in their "Flora of North America" *1*:560 (1840), too closely followed Hooker, for they listed both *S. Douglasii* and *S. stenopetalum*, simply translating the description of Pursh and describing the leaves as compressed-subulate and the petals as linear. Curiously, they listed as a synonym, *S. lanceolatum*, which Torrey had earlier described accurately with oblong-lanceolate leaves and lanceolate petals.

Since *S. lanceolatum* comprises two subspecies, new names or combinations are necessary for these to bring the nomenclature up to date.

S. lanceolatum subsp. typicum nom. nov., based on *S. lanceolatum* Torrey, *loc. cit.* A

synonym is *S. stenopetalum* subsp. *stenopetalum* R. T. Clausen, Cact. & Succ. Jour. *18*:77 (1946). The epithet *stenopetalum* cannot be used here because it is based on a type which belongs to a species different from that of *S. lanceolatum*.

S. lanceolatum subsp. **nesioticum** (G. N. Jones) comb. nov., based on *S. nesioticum* G. N. Jones, Madroño 6:86 (1941). A synonym is *S. stenopetalum* subsp. *nesioticum* (G. N. Jones) R. T. Clausen, *loc. cit.* That combination is illegitimate because the necessary bibliographical reference for the basinym was inadvertently omitted.

The names *S. caerulescens* Haw. and *S. subclavatum* Haw. have sometimes been listed as synonyms of *S. stenopetalum* (*sensu S. lanceolatum*). A photograph of a painting by Bauer, artist to Sir Joseph Banks, supposedly of *S. caerulescens*, has been kindly supplied by Dr. E. J. Salisbury of the Royal Botanic Garden at Kew. In his opinion, this probably is based on Haworth's material of *S. caerulescens*. This illustration accompanies the present discussion. The plant depicted seems to be *S. reflexum*. *S. subclavatum* is a name of doubtful status. According to a report from Kew, no evidence is available that Haworth prepared either an herbarium specimen or drawing of the non-flowering, cultivated specimen which he described. The plant was grown at Chelsea, but said to have come from North America. The name cannot be applied definitely to any species. It should be excluded from further consideration and can not be regarded as an equivalent of *S. lanceolatum*.

For funds enabling me to travel to Philadelphia where I studied the type of *Sedum stenopetalum* at the Academy of Natural Sciences, I am indebted to the Faculty-Trustee Committee on Research of Cornell University.

Dept. of Botany
Cornell University
Ithaca, N.Y.

TESTIMONIAL

I have ordered cactus and pottery from Guy Quinn, so I wanted to see his place and meet him, so we went to Eastland and drove over to Mr. Quinn's place, which is just a mile or two from Eastland, and Oh My! the cactus at his place! They are all set out in rock walled plots, and I couldn't even venture a guess as to how many there are. Thousands of them! Mr. Quinn, Sr. was there and after we had looked around he asked us if we wanted to see nature in the rough. We said we'd love to, so he took us over to a field not far from Eastland, and showed us how cactus grow. We were so surprised and delighted, I just couldn't leave. We were so thrilled we could hardly sleep that night.

The next morning we went back to Mr. Quinn's. He took us to a field just full of all sizes and all colors of Echinocereus, including a 32 and a 35 headed specimen. The Mams. proved to be more fun, for we had to hunt for them a bit more as they were pulled down to almost level with the ground, because it was quite dry there. They were usually nestled close to a mesquite or some other shrub. After lunch we went to another place to see some Devil's Heads (*Homalocephala texensis*). They were all very beautiful with their bright pink fruit

Mr. Quinn is certainly a very generous person with both his time and plants, and to anyone wanting to order cactus, I can recommend him very highly. He sends blooming size plants, not small nursery grown plants. His plants are hardened to the weather and therefore can stand more than nursery grown plants.

To you Mr. Quinn, thanks a million. You really showed us a grand time.

MRS. H. L. HUCH, Chester, Illinois.

LIBRARY GIFT

At the September meeting of the Los Angeles Cactus and Succulent Society, held September 12, 1948, the membership of that organization voted to offer their library of cactus and succulent books and literature to the Cactus and Succulent Society of America, Inc., to form the nucleus of the reference Library which the Research Committee has been attempting to bring together. Mr. Rush, Chairman of the Research Committee, presented the offer of the Los Angeles Cactus and Succulent Society to the assembled members of the Cactus and Succulnt Society of America, Inc., at the Annual Meeting held September 19, 1948, at which time the offer was accepted and Mr. Rush was instructed to accept the library for delivery to the Society's Librarian.

The only provision made to this offer was that members of the Los Angeles Cactus and Succulent Society be allowed to use the books when needed upon presentation of a paid up membership card when asking the Librarian for the books. This agreement is to exist so long as the Los Angeles Cactus and Succulent Society remains as an affiliate of the Cactus and Succulent Society of America.

In addition, the Los Angeles Cactus and Succulent Society also offered to continue to present the Society Library with the year's volume of the Journal and the year's volume of Desert Plant Life each year.

MOVING PICTURES IN COLOR

On Tuesday, November 16th, at 7:30 p.m., in the Lecture Hall, Room 145 of the Allan Hancock Foundation, under the radio towers on the Campus at the University of Southern California, the Cactus and Succulent Society of America, Inc., will present to the public, a talk by Mr. Charles Larabee, illustrated by colored motion pictures of his recent trip through the Andes of Peru, showing scenes in Peru, pictures of flowers and plants, and the Indians and their mode of life. This program is free to the public and it is well worth your time to attend. The Herbarium of the Foundation will be open for inspection before and after the picture. Mark your calendar *Now*.

Wanted—correspondent to exchange notes and experiences. Maurice Vaughan, 68 Brighton Terrace Road, Sheffield 10, England.

CACTI IN THE HERBARIUM OF THE ALLAN HANCOCK FOUNDATION

By E. YALE DAWSON

At a special meeting of the Society called by President Brassfield and held in the Allan Hancock Foundation at the University of Southern California, Los Angeles, on June 10, 1948, a motion was made by Homer Rush and carried by a quorum of the executive board to the effect "that full cooperation of the Society should be given toward aiding in the establishment in the Herbarium of the Hancock Foundation of a research collection of preserved specimens of cacti and other succulents." Since this projected program is unknown to most of the Society members, it is intended here to explain the idea and to suggest methods of carrying it out.

The Herbarium of the Hancock Foundation is a very new repository for botanical specimens. Since the first specimens were accessioned in August, 1946, over 37,000 specimens have been received for permanent reference filing and thousands more are in the study and preparatory stage. As a result of the field work of the Hancock Expeditions from 1930 to 1941, collections both of marine and terrestrial plants were obtained from the Pacific Coast of Mexico, Central America, South America and from the Caribbean Sea. Reports on these materials have led, in the biological research of the Foundation, to emphasis on that particular part of the world which happens to be the homeland of the Cactus family. Thus, in the botanical field, this institution is in a particularly favorable position to foster the assembly of research materials of cacti. Geographically, the institution itself is located in an area of native cacti as well as an area remarkably well suited for the cultivation and study of living plants of this group. For these reasons, too, this institution may logically become a center for research on this group of plants.

You, the members of the Society, must be aware of the deficiencies in the study of cacti in America since the time of Britton and Rose. Each of you, in identifying his plants, must have noted time and again inaccuracies and insufficiencies as well as total voids in the knowledge of some plants. The fact is, that notwithstanding the widespread cultivation of cacti, abundantly pursued by amateurs, the scientific investigation of these plants by professionally trained men has been very seriously neglected. There are a number of obvious reasons for this neglect, but the most prominent one is the discouraging lack of preserved specimens and field data. It is our ambition to improve this situation.

It is well known that the cacti, and most other succulents, are difficult subjects for herbarium treatment, for they do not dry rapidly and frequently distort badly when hasty attempts at desiccation are made. Most herbaria have few specimens for this primary reason. Furthermore, since cacti are such interesting horticultural subjects, specimens taken in the field soon find their way to gardens where any scientific data which might have been preserved with the specimen is promtly lost. Once in the garden, valuable research materials are removed from the field of scientific inquiry because of a disinclination to destroy the temporary beauty of a living plant in order to preserve its characters for the research herbarium. Singularly unfortunate is the usual disregard of the amateur for field data. We should educate to overcome this, for a specimen to have scientific value must be accompanied by geographic and temporal information in order that the specimen may become a representative of Nature: that which we are attempting to understand. It is my intention here to urge that you, the members of the Cactus and Succulent Society of America, stop for a moment to consider what you are doing,—what your hobby is contributing. Are you interested in nothing more than the fulfilling of a desire to possess, as a stamp collector, or do some of you wish also now and then that you could make a contribution to the scientific study of cacti? To any of you who ever collect plants in nature let me say that each of you can make a contribution to knowledge by collecting plants not alone for the enjoyment of their ephemeral lives in the garden, which can at the most be only a few years, but rather to make permanent preservations of specimens which may endure indefinitely and may continuously contribute to a growing knowledge of this group of plants. At the Allan Hancock Foundation we are interested in housing such specimens, in preserving them, and in encouraging qualified specialists to come to study and to use them. Ultimately, your contributions will help to clarify and to

rectify the taxonomy of the Cactaceae so that all who care may benefit.

In the Herbarium we endeavor to prepare specimens in the most appropriate manner for study and for filing. Many specimens are satisfactory if carefully dried, especially the Opuntioids, Pereskioids, and any of the flattened, slender, small or sparsely spined plants. Flowers of almost any kind may be prepared by drying if carefully split and placed under sufficient pressure during drying to prevent shrinking or wilting. Color may not always be retained, so color notes should be kept. Liquid preserved flowers are also very useful and may be put up in alcohol in small vials. Globular cacti are less satisfactory as dried specimens and many of these are best preserved in alcohol in appropriately sized jars. The same is true of some large, columnar species in which a portion of a branch usually serves as a specimen. For all such large types it is almost essential that a specimen be accompanied by a photograph of the whole plant. Of course photographs are always a great asset to any specimen. Even a photograph alone, if provided with locality data is of value as an herbarium record. Exceedingly spiny species are often most satisfactorily prepared as dry specimens without pressing, and appropriate portions preserved in boxes or trays, again accompanied by photographs if possible. Thus, for *Echinocactus polycephalus*, for instance, spine-clusters, portions of ribs and fruits would best be preserved dry in a box with a general description of the whole plant, or a photograph of it.

For specimens which can be dried under pressure, an ordinary plant press with corrugated cardboard separators, builder's felt blotters and folded newspaper sheets, is entirely satisfactory. Drying may seem difficult at first, but after a few trials one will discover the best methods of handling the various types of plants. Most specimens should be split and as much of the fleshy tissue removed as possible without disfiguring the specimen, then the cut surface sprinkled with salt which will soon cause much of the water in the tissue to be exuded. A few hours after salting, the excess water may be removed and the specimens bound in the press between the newspaper folds. The driers should be changed as frequently as they become saturated with moisture. If the driers are well dehydrated a few times and applied while warm, good specimens can be processed in a few days. In the field, if the press is simply left out in the air while traveling and the driers changed frequently, specimens will dry quite rapidly. If the tissues tend to remain alive and are very slow to dry, or if the salt does not give good results, killing of the plant by splitting and immersing in formaldehyde often will make the plant dry more quickly and satisfactorily. It will also prevent mold. Immersion in very hot water for a few minutes may also be an aid in many cases.

If the brief suggestions above have now stimulated the reader to an interest in the preparation of specimens, he need only turn to page 3 of volume 14 of the JOURNAL for the very well written and illustrated article by R. H. Peebles on "Preservation of Cactus Material."

It is hoped that Society members throughout the United States will contribute abundantly by sending specimens with accurate data of all the native species of cacti of their regions. Those who travel in Mexico or in other cactus lands should make special efforts to prepare specimens for preservation. They are solicited with interest, for we recognize that only by obtaining large series of plants, and photographs of them in nature, can there be hope of completing the taxonomic system even of our native species, not to mention the exotic ones. For all those who are interested in aiding in this work and who wish to make collections for preservation under their own names, printed labels will be furnished so that the collector may record all such data as place of collection, habitat, flower color, associations, date, name of collector, etc. Well-prepared specimens of all kinds will gratefully be received and acknowledged. Let us know what you can send. We will suggest the best ways for handling it.

Inquiries regarding the making of collections, their handling, identification, preservation, labeling, etc., may be addressed to Dr. E. Yale Dawson, the Herbarium, Allan Hancock Foundation, University of Southern California, University Park, Los Angeles 7, California.

FIG. 108
Lobeira MacDougallii—growing on an evergreen Oak about 8000 ft. alt. Cerro Huietepec, S. C. Las Casas, Chis., Mexico.

LOBEIRA MacDOUGALLII—it's Fruit

By T. MACDOUGALL

Early in February of the present year I was once again in the Mexican city of San Cristobal Las Casas. Ripe fruit of *Lobeira MacDougallii* was again observed and this time, in the interest of the taxonomy of Cactaceae, observations and measurements were recorded.

Lobeira MacDougallii: Fruit green, with pronounced ridges, bearing about six woolly tufts of very short hairs. Length 35 mm. (including a "neck" of 5 mm.), width 28 mm. Pulp sub-acid, watery-mucilagenous, translucent-whitish, oval, 23 mm. long by 20 mm. wide. Seed numerous, black, 2½ mm. to 3 mm. in diameter.

The woolly tufts are pale brown, 1 mm. to less than 2 mm. in width. No scales were discernable (to the naked eye) but may have fallen.

These fruit characters differ markedly from those of *Nopalxochia phyllanthoides* and *"Epiphyllum" Ackermannii* and, I think, will strengthen the position of *Lobeira* as a good genus. This is a desideratum because I suspect that, eventually, a second species may be added to the genus.

FIG. 109
Lobeira MacDougallii—fruiting pad.

FIG. 110
Cerro Huietepec as seen, over the wet meadows of the valley, at 7000 ft. alt. from north edge of S. C. Las Casas. The Pan-American Highway runs around to the left of the mountain.

THE BEAMS—SPECIALISTS

Ever since the JOURNAL started twenty years ago, we have known Gertrude Beahm, of Pasadena, as a plant lover and collector of succulents. Her interest dates back to her father, J. B. Wagner, nurseryman and horticulturist, whose name was associated with Luther Burbank. At the time that the Burbank spineless cactus was being shipped by the car load as cattle feed, Mrs. Beahm began collecting cacti as she accompanied her father on his desert trips.

Epiphyllus hybrids then came to her attention and she soon became one of the first growers of these beautiful cacti. Then tragedy struck and her eyesight began diminishing until the last nine years she has been totally blind. This handicap failed to curtail her interest and enthusiasm and her keen memory and sense of feeling developed to such an extent that today she can still distinguish hundreds of the hybrids if one only tells her the flower color. This is where her husband, known so well to us as Ernie Beahm, comes into the picture. He quickly acquired a vast knowledge of these plants so that he could keep Mrs. Beahm posted on the many new developments.

Today Ernie Beahm is as enthusiastic as his wife and has become a leader in propagating Epiphyllum hybrids. There is no one more generous with his time, his knowledge, and his plants. Together, they edit the Bulletin of the Epiphyllum Society and are doing a wonderful work in introducing new and better hybrids. We need more specialists like the Beahms to work with the many other groups of succulent plants.

FIG. 111. E. Sherman Beahm boasts an acre of Orchid Cacti under lath.

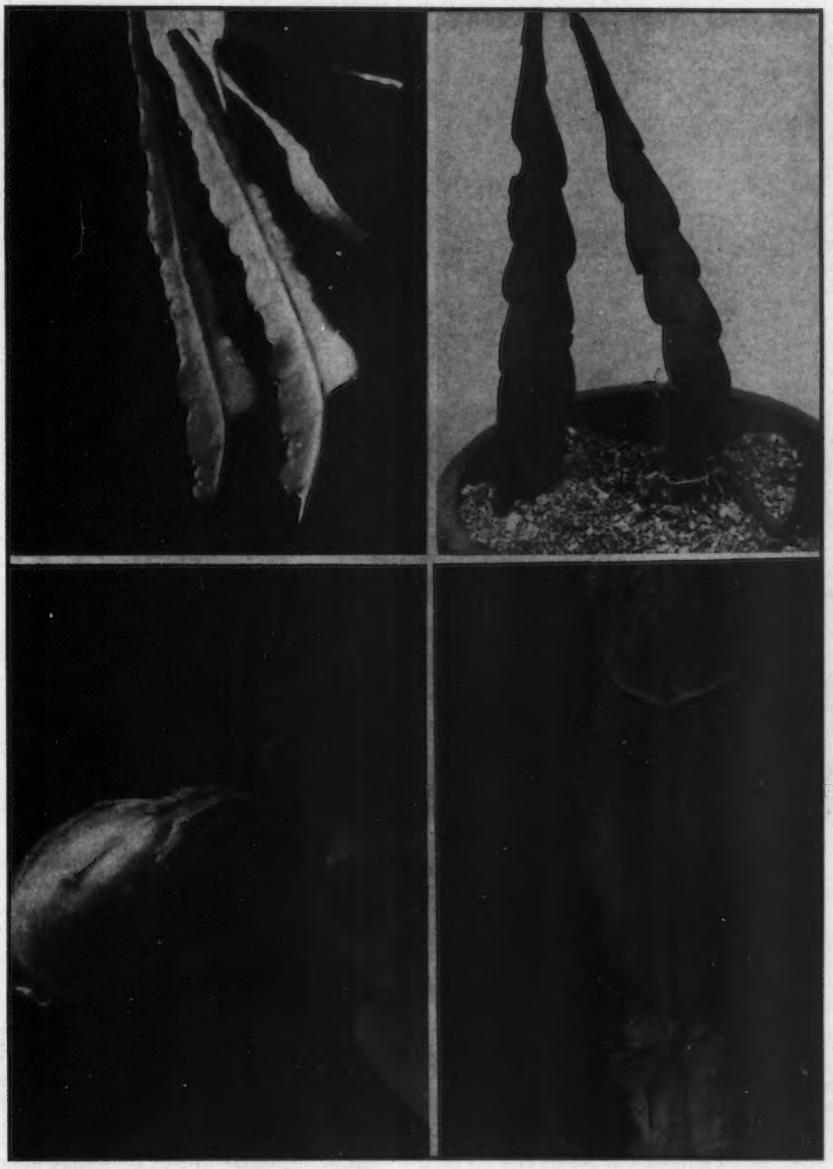

FIG. 112. *Observations in the Beahm Gardens.* UPPER LEFT: All of the branches of this particular plant terminate in this unusual form. UPPER RIGHT: When the tips of branches contact the soil, a vigorous root system surpasses that of the parent plant. LOWER LEFT: Often a fruit will be produced at the end of the flower tube instead of at the areole. LOWER RIGHT: Branches struggle to survive; this cutting dried at both ends and after a year it produced roots from the mid-rib.

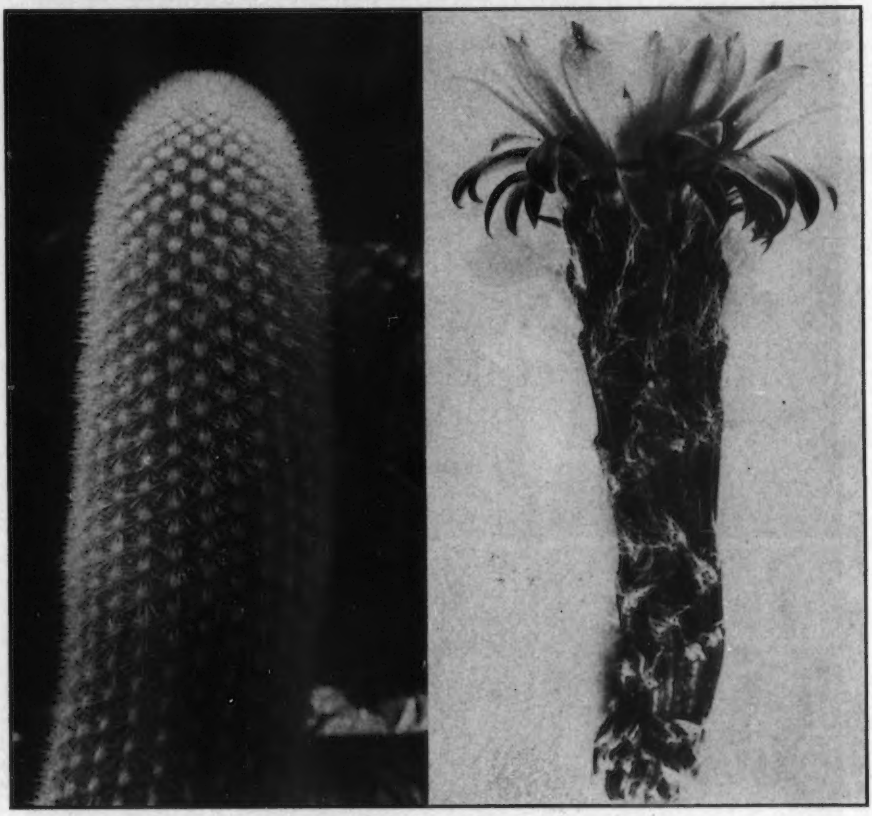

FIG. 113
Peruvocereus albispinus sp. nov.

New Species from Peru

By JOHN AKERS

Peruvocereus albispinus sp. nov.

Plantae columnares usque ad 1 m. altea, ramos 5-15 aggregatos diametro 7-9 cm. ex basi caudicis emittentes; spinae albae confertae cutem griseo-viridem obscurantes; costae 25-26 humiles; areolae conspicuae 5.5 mm. longae 3.5 mm. latae 2 mm. altae albo-tomentosae pilis crispis albo-bombycinis atque spinis lateralibus 20-25 pallido-flavidis acicularibus 4-5 mm. longis instructae; spina centralis porrecta acicularis ca. 12 mm. longa setis 20-35 albis 5-7 mm. longis; flores paullo infra apicem ramorum emergentes anguste infundibuliformes limbo rotato ca. 4 cm. lato, segmentibus interioribus spathulatis apiculatis atrorubris aurantio suffusis glaucescentibusque, segmentis exterioribus fere linearibus item apiculatis atrorubro-brunneis valde reflexis virga media saturiora, florium tubis ca. 6.5 cm. longis virido-rubris squamatis; tuborum squamae apiculatae apicis atrorubrae in axillis pilos 30-40 albo-bombycinos gerentes; stamina numerosa inclusa, filamentibus ad apicem versus rubris basi albis; stylus pallido-roseus inclusus, stigmatium lobis ca. 14 virido-flavis 1.5 cm. longis; fructus obovoideo-truncatus aurantio-roseus diametro 6 cm.; fructus squamae in axillis pilos ca. 50 albo-bombycinos 5-10 mm. longos gerentes; semina parva punctata lucido-nigra, hilo atro-cinereo; radices lignea cortico squamato passo.

Plants columnar up to one meter high and branching from the base to form groups of from 5 to 15 stems; stems 7 to 9 cm. in diameter with a sage green epidermis that is nearly hidden by the dense coating of spines and bristles; about 25 to 26 low ribs with white, felted, elliptical (5½ mm. long, 3½ mm. broad and 2 mm. high), conspicuous, approximate (9 mm. distant) areoles; spine cushions filled with short, white, silky, kinky hairs; spines 20 to 25, pale

yellow, pungent, acicular and 4 to 5 mm. long; central spine porrect, yellow, acicular, pungent and about 12 mm. long; bristles 30 to 35, white 5 to 7 mm. long and emanating from the lower two thirds of the areoles; flowers solitary, emerging from the sides of the stems but near the apex, narrowly funnel-form with a rotate, expanded limb about 4 cm. across; inner perianth segments spatulate, apiculate, deep red shaded orange with a faint overcoat of blue; outer segments nearly linear, apiculate, dark red-brown or mahogany with a darker midstripe and much reflexed; tube about 6½ cm. long, deep greenish red with many narrow, raised, apiculate scales which are tipped with darker red; about 30 to 40 white, silky hairs emanate from the axils of the scales; ovary bright green, scaly and white hairy; stamens many, included; filaments red above, white below; anthers oblong, cream-colored; style included, pale pink; stigma lobes about 14, greenish yellow and quite long (1½ cm.); fruit large (nearly 6 cm. in diameter), obovate, flattened, orange pink; scales smal, distant (about 1½ cm. apart), with rose-red streaks extending for about one centimeter from their bases; scales apiculate with a minute yellow thorn; about 50 silky, white (5 to 10 mm.) long hairs emanating from the axes of the scales; floral remains persistent, brown and covered with kinky, brownish-white hairs; pulp insipid, edible, white, and occurring in translucent globules; seeds small, punctate, black, shiny with a dark gray hilum; roots thick and woody with loose scaly bark.

Type locality: Hills above the Santa Eulalia River Valley.

Distribution: The same.

This white-spined cereus with its conspicuous areoles is very attractive. However, the bristles are not very noticeable, and the spines seem to predominate. As both the spines and the bristles are about the same length, the plants have a stiff, neat appearance that is not usually encountered in this genus. The majority of the species are spiny, bristly or both, and are apt to have a shaggy appearance. The stems show to perfection the swollen bulges that are typical of this genus. Although the areoles are not as large as those of *P. salmonoideus*, they are whiter and even more conspicuous. The snowy color of these plants is held very well and does not get dingy with age. Although the flowers are quite attractive and somewhat resemble those of *P. rubrospinus* they are produced very sparsely if at all. The small seedlings resemble a white *Notocactus scopa.*

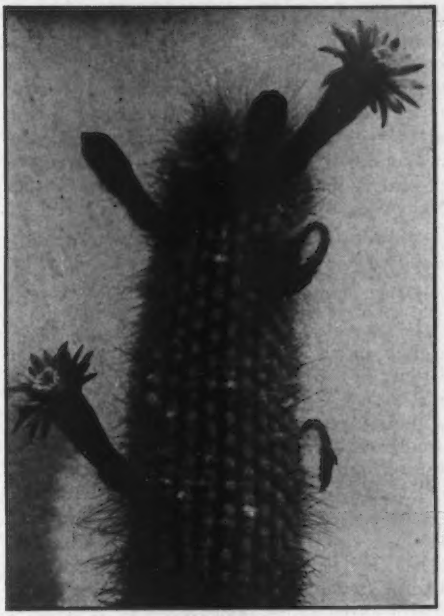

FIG. 114
Peruvocereus albispinus var. *floribundus* var. nov.

Peruvocereus albispinus var. floribundus var. nov.

A Peruvocereo albispino typico ramis angustioribus spinis paucioribus flavidioribus paullo longioribusque floribus plurioribus discedit.

Plants columnar, less than one meter high and branching from the base to form groups of from 5 to 10 stems; stems vary from 6½ to 7½ cm. in diameter, and have a sage green epidermis that is nearly hidden beneath the coating of spines and bristles; about 23 to 24 low ribs with conspicuous, white, elliptical (6 mm. long, 4 mm. broad, and 3 mm. high) woolly, approximate (9 mm. distant) areoles; spine cushions consist of tufts of short, white, woolly hairs; spines 15 in number, pungent, acicular, yellow, and from 6 to 7 mm. in length; the central spines are ascending or depressed, acicular, pungent, yellowish and about 2 cm. in length; bristles 20 to 35, white, 1 cm. long and emanating from the lower half of the areole; flowers solitary, emerging from the sides of the stems; flowers narrowly funnel-form with a rotate, expanded limb about 4 cm. across; inner perianth segments spatulate apiculate, and colored old rose shaded orange (usually with a faint blue sheen); outer segments nearly linear, apiculate, reddish brown and much reflexed; tube 4½ cm. long dark mahogany red with rather broad, short and apiculate scales; scales tipped darker red, and about 20 to 40 white,

silky, 1 cm. long hairs emanate from their axils; ovary green, scaly and white hairy; stamens many, included; filaments slender, pink to white; anthers oblong, cream-colored; style included, white; stigma lobes 10, greenish; fruit up to 4 cm. in diameter, nearly round and plum red; scales white, hairy, distant; floral remains persistent, brown with white hairs; roots thick and woody with loose scaly back.

Type locality: The hills above the Santa Eulalia River Valley.

Distribution: The same.

In contrast with the type species this variety is one of the most consistent bloomers, but it does not set fruit readily. The stems never reach the diameter of those of the type species, and the longer spines give this variety a shaggy appearance. At certain seasons of the year the spines become more pronouncedly yellow and the whole cactus takes on a pale yellow look; some of the varieties even becoming lemon yellow in color. The color of the flowers varies considerably and is rather difficult to define, but like the type, the flowers generally have a pale bluish sheen. This plant is nearly midway in character between *P. albispinus* and *P. albisetatus* and might possibly be considered a variety of either, but as the spines predominate and the flowers have the blue sheen, it seems more correct to place it with the former species. In the excellence of its flowering habit, it is only equalled by *P. rubrospinus* and *P. salmonoideus*.

Peruvocereus albispinus var. **roseospinus** var. nov.

A Peruvocereo albispino typico ramis angustioribus spinis centralibus roseis differt.

Plants columnar about .6 of a meter in height and branching from the base to form groups of from 2 to 5 stems; stems about 7 cm. in diameter with a medium blue-green epidermis which is partly hidden by the spiny growth; about 23 to 24 low ribs with elliptical (6 mm. long, 4 mm. broad and 3 mm. high), white, felted, conspicuous, approximate (6 to 7 mm. distant) areoles; spine cushions filled with short, white, silky but kinky hairs; spines about 18 or 20, yellow, pungent, acicular and from 4 to 6 mm. in length; central spines two, one ascending and one depressed, pungent, acicular, 7 to 9 mm. long and colored yellow, tipped with red; bristles about 30, white, 7 to 9 mm. in length and emanating from the lower half of the areoles; flowers and fruit unknown; roots coarse and woody with loose scaly bark.

Type locality: The hills above the Santa Eulalia River Valley.

Distribution: The same.

Although this plant has never been seen in fruit or flower, the apparent predominance of the spines over the bristles and the short, neat arrangement of both the spines and bristles, places this plant under the species *P. albispinus*. The general appearance of the plant is also very similar to the type with the exception of the reddish cast of the central spines, and the fact that the diameter of the stems of the variety do not attain the size of those of the type. In small plants, the resemblance of this variety to certain of the red-spined varieties of *Notocactus scopa* is quite noticeable. Both the type and the variety grow moderately fast and maintain their fine appearance over all seasons of the year.

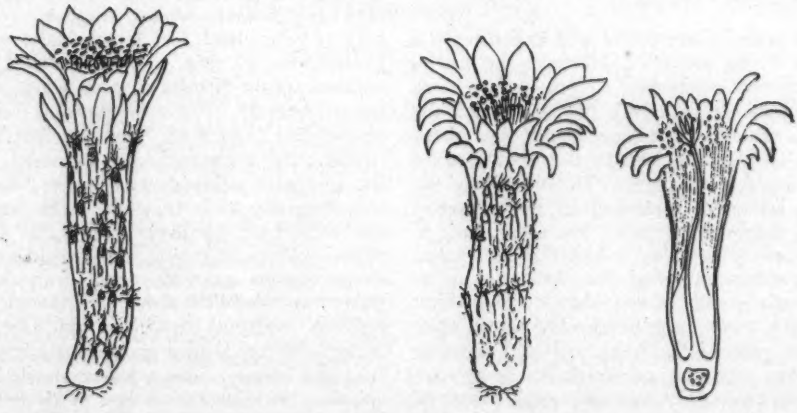

FIG. 115
LEFT: *Peruvocereus albispinus* sp. nov. RIGHT: *Peruvocereus albispinus* var. *floribundus* var. nov. showing flower and cross section.

SPINE CHATS

LADISLAUS CUTAK

One of the most interesting of summer flowering succulents is the beautiful *Hoya carnosa,* or climbing Wax Plant. Well established specimens produce hundreds of flowers from May until the end of August, and nothing could be more beautiful than the delicate pinkish, waxy flowers against a background of dark green shiny leaves. One of our plants, at this writing, is bearing 25 flower clusters, consisting of 550-700 individual floral jewels, hence my enthusiasm for discussing this plant. (See Johnson Cactus Garden catalog 1948, page 12.)

Hoya carnosa hails from tropical Asia and Australia and is the only common species in cultivation. It has been a great favorite for over a hundred years. The Wax Plant is a twiner, with stems 6-10 feet long, climbing by means of aerial roots, and is often trained as a permanent cover for a greenhouse wall. For ordinary pot or tub culture it is best trained to a trellis (balloon shaped preferred) and when covered with shoots, leaves and flowers, it forms an attractive and handsome object. The Wax Plant is easy to manage. During the growing and blooming season, give plenty of sun, air and abundance of water, but during the winter months keep it in a dry and cool atmosphere. The soil mixture most suitable seems to be composed of two parts of good fibrous loam to one of leafmold and sand to which has been added some lime rubble, small pieces of broken pots or rocks, and charcoal. Mealy bugs may attack the plant but they can be kept off with a fine stream of water from the hose. Propagation is best carried on by layering or cuttings. In the former method simply pin the stems to the ground where they will form roots easily and then sever the rooted portion from the mother plant, transferring into individual pots. In the case of cuttings, lay them for a day or two on a shelf, to heal up the wounds and stop the bleeding. Then place in sand or sandy soil to form roots.

Hoya carnosa possesses thick and fleshy, entire leaves—elliptic to ovate or ovate-oblong in shape, with acute tips—usually described as short-stalked although the leafstalks often are 3 cm. (1¼ in.) long. The leaves are usually Spinach Green to Dark Ivy Green in color (I might add, if I haven't previously, that in all my articles technical color terms used are those of Ridgeway, Color Standards and Color Nomenclature), frequently conspicuously mottled with silver grey and prominently veined on the upper surface while the underside is Tea Green to Deep Grape Green without any mottling or veining. Individual leaves, excluding stalks, may vary in size from 4.5 cm. long by 3 cm. broad to as much as 10 cm. long by 5 cm. wide. The flowers appear on long stems in drooping umbels in the axils of leaves and form a semi-globose head of radiant beauty. Each cluster is composed of 22 to 28 glistening star-like blossoms. Pedicels are soft pubescent, Deep Vinaceous (pinkish purple), and 3 cm. long. The calyx is very small, star-like, of similar texture and color as the pedicels, the five segments lanceolate, 2 mm. long. The corolla spreads out into a somewhat flattened, seemingly blunt-pointed, fleshy and bearded star, its segments or lobes broadly ovate-triangular with reflexed margins and tips, whitish to faintly pinkish in color. Superimposed like a crown in the center is another much smaller star (hiding and holding the sexual organs) with ivory white segments tinged purple-red.

* * *

Three new species and five new varieties of Haworthia are described by G. G. Smith in the April, 1948, issue of the *Journal, South African Botany.* The species are *Haworthia atro-fusca, H. heidelbergensis,* and *H. musculina.* The first is aptly named for its dark reddish brown color and is quite distinct from all species in the Section Retusae. The second is an attractive small species similar in general appearance to *H. mirabilis* but the leaves are narrower, margins not as conspicuously toothed, back of leaf not as tubercled and the color quite distinct. The third is closely related to *H. Reinwardtii* except that it is more robust, yellowish-green and the leaves less lanceolate. The five varieties are members of the Margaritiferae, Trifariae, Loratae and Coarctatae Sections. *H. longiana* var. *albinota* possesses conspicuously large and bluish white tubercles. Plants fully exposed to sun have the appearance of being covered with white scale. *H. viscosa* var. *quaggaensis* is a heavier and more compact plant than the species with less lanceolate and more recurved leaves. *H. angustifolia* var. *paucifolia* in comparison with the species has fewer leaves and the pedicels are much shorter. *H. Reinwardtii* var. *tenuis* is distinguished from the species by its being much taller and much smaller in diameter and by its rope-like appearance in its procumbent habit. *H. Reinwardtii* var. *diminuta* as its name implies is a very small replica of the species and not only is the plant and its leaves smaller, but the tubercles are minute, giving the plant a uniformly white-peppered appearance.

* * *

Harold St. John led a four-man mission from the University of Hawaii on a scientific reconnaissance of Micronesia in 1945. The party made a stop at Pingelap Atoll, which lies about halfway between Kusaie and Ponape. This atoll is composed of three islets: Tugulo, Takai and Pingelap and the single village is located on the last one. The village stretches along a single straight street and is composed of about 200 inhabitants. The flora of Pingelap, as described by Dr. St. John, includes 57 species of which 32 are indigenous, 12 are crop or cultivated plants, 10 are ornamentals and 3 are adventive weeds. *Bryophyllum pinnatum,* which we commonly call "Chandelier Plant," is an ornamental succulent, introduced by the Germans and found by the village street. In Pingelap it is called "Lamalam."

* * *

In the little town of Carlsbad, New Mexico, lives a retired mining engineer, who is one of my most valued correspondents. This man, B. E. McKechnie, was born and raised in Boston, and while he chose mining for his vocation to uncover hidden wealth in subterranean regions he did not overlook the floral wealth that abounded above ground. He visited most of the mining districts in this country and spent two years in Russia. It was not until he moved to New Mexico more than ten years ago that he took an interest in cacti and desert flora in general. During the winter months his collection is housed in a sun-porch, but his greatest enjoyment is taking pictures of cactus flowers in natural color. And I might add, Mr. McKechnie is quite proficient in this hobby.

BOOK NOTES

NEW AND RARE SUCCULENTS — H. Krainz, president of the Swiss Cactus Society. Written in the German language, this booklet describes 9 new species or varieties of cacti, besides remarks and descriptions of many already published. 37 excellent photographs are reproduced. Printed on fine quality paper. $1.00 postpaid in U. S., foreign please add 10c.

PLANT HUNTERS IN THE ANDES—T. Harper Goodspeed. An exceptionally well written account and excellent photographs of cacti encountered in the Andes. 429 pages of text and 77 pages of illustrations. $5.00. Postage in U.S.A. 10c, foreign 35c.

Cactaceae—Marshall and Bock: We have a few slightly used copies of this out-of-print edition available at $6 while they last. Please add 30c postage. This book has recently sold for $15.00.

Cactus and Succulent Plants—H. M. Roan, England. This 1948 book of 60 pages is written for the amateur and contains many references to cacti and the other succulents, also growing methods, propagation, and month to month treatment. 112 illustrations. We are ordering these books from the National Cactus and Succulent Society of England and now is the time to obtain a copy for $1.75 postpaid.

Horticultural Colour Chart of the Royal Horticultural Society of England, is again available. This is the generally accepted standard for color descriptions and is absolutely necessary in describing flowers. Price of the two loose-leaf volumes, $10.50 for the next 90 days only. Foreign 11.00.

Succulent Plants—Jacobsen. The revised edition of the most complete book on the other succulents is now available. There are over 300 illustrations with descriptions of 1000 species; mentions as many more in the 293 pages. English edition $6.50, foreign $7.00.

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"Neale's Pictorial Booklet of Cacti and Succulents" by E. Lamb. Worthing, England. This new 48-page booklet consists of pictures with their captions. There are 63 clear photos, mostly from Neale's Catalogue of 1935. Postpaid $1.